IN THE CLAIMS

Claims 1-94: (Canceled)

95. (Previously Presented) A method for processing a current image frame of an image sequence to classify a pixel in the current image frame as a foreground pixel or a background pixel, comprising:

storing a list of actual history pixel values representing a history of actual pixel values for the pixel as determined in previous image frames;

predicting what value the pixel will have in a next frame of the image sequence using the list of actual history pixel values to generate a first pixel value prediction;

storing a list of predicted history pixel values representing a history of predicted pixel values for the pixel as determined in previous image frames;

predicting what value the pixel will have in a next frame in the image sequence using the list of predicted history pixel values to generate a second pixel value prediction;

determining an actual value of the pixel in the next frame of the image sequence; and

classifying the pixel as a foreground pixel if the actual value of the pixel in the next frame of the image sequence differs from any one of the first and second pixel value predictions by more than a threshold value.

96. (Previously Presented) The method of claim 95, wherein predicting what value the pixel will have in a next frame of the image sequence using the list of actual history pixel values to generate a first pixel value prediction further comprises using the formula:

$$s_{tp} = \sum_{k=1}^{p} a_k s_{t-k}$$

wherein s_{tp} is the first pixel value prediction at time t, s_{t-k} are the list of actual history pixel values, a_k are linear prediction coefficients, and p is a number of the prediction coefficients.

97. (Previously Presented) The method of claim 95, wherein predicting what value the pixel will have in a next frame of the image sequence using the list of predicted history pixel values to generate a second pixel value prediction further comprises using the formula:

$$s_{tp} = \sum_{k=1}^{p} a_k s_{t-k}$$

wherein s_{tp} is the second pixel value prediction at time t, s_{t-k} are the list of predicted history pixel values, a_k are linear prediction coefficients, and p is a number of the prediction coefficients.

98. (Previously Presented) The method of claim 96, further comprising computing the threshold value using the formula:

$$4.0 * \sqrt{E[e_t^2]}$$

wherein the expected squared prediction error $E[e_t^2]$ is given by the formula:

$$E[e_t^2] = E[s_t^2] + \sum_{k=1}^{p} a_k E[s_t s_{t-k}],$$

wherein s_t is a pixel value prediction at time t.